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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,491	01/27/2004	Steve S. Gruhn	46266	6274
1609	7590	07/07/2006	EXAMINER	
ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P. 1300 19TH STREET, N.W. SUITE 600 WASHINGTON,, DC 20036			WEISKOPF, MARIE	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/764,491	<b>Applicant(s)</b> GRUHN, STEVE S.	
	<b>Examiner</b> Marie A. Weiskopf	<b>Art Unit</b> 3661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/18/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The term "sufficiently" in claims 10 and 17 is a relative term which renders the claim indefinite. The term "sufficiently" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Keller et al (US 6,199,000). Keller et al discloses a method and apparatus for precision agriculture operations utilizing real time kinematic global positioning system systems comprising:

- In regard to claim 15, a method for treating areas of grass found on a golf course, the method comprising:
  - Applying at least one turf treatment agent in a target location at a rate and over an area corresponding to stored computer information that identifies the course attributes at the target location, wherein application of the turf treatment agent in the area is controlled by a computer system responding

to location information that controls the quantity of the applied turf treatment agent thru a spreader controllably linked to the computer and based on location information and a map of course attributes that is stored within the computer. (Column 5, lines 4-41)

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGrew, II (US 5,865,258) in view of Keller et al (US 6,199,000). McGrew discloses a golf course maintenance machine and Keller et al discloses a method and apparatus for precision agriculture operations utilizing real time kinematic global positioning system systems.

- In regard to claim 1, a maintenance equipment system suitable for the precious maintenance of turn on a golf course, the system comprising:
  - A utility tractor having a plurality of wheels distributed at a front end and a rear end of the tractor (See Figure 28)
  - A turf maintenance device hitched to the tractor at a location on the tractor sufficient to distribute weight of the maintenance device between the wheels and prevent damage to the turf on the course (Column 5, lines 33-51)

McGrew fails to disclose a position location system or a maintenance control computer system. Keller et al, however, discloses a position location system that displays local position of the utility tractor relative to a treatment area and displays the location to an operator of the tractor (Column 9, lines 1-7). Keller et al also discloses a maintenance control system that is in communication with the location system wherein the computer application control system records position information in the target treatment area (Column 5, lines 28-40), correlates the position information with stored data that identifies the turf treatment needs at the location for the maintenance device (Column 5, lines 28-40) and sends control signals to the maintenance device for controlling operation of the maintenance device at the location. (Column 6, lines 21-57) It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of McGrew with the apparatus of Keller et al in order to provide a system which is able to reliably provide maintenance services on a golf course. Keller et al discloses that the invention can be used for operations where highly accurate positioning determinations need to be made, such as where to place a hole on a golf course or the boundaries of the fairway and the green. The invention disclosed by McGrew is for maintaining a golf course and it would be obvious to implement the position location system in order for the operator to be able to see the boundaries of what areas need to be treated with certain chemicals or cut.

- In regard to claim 3, McGrew discloses wherein the wheels of the tractor have a width sufficient to prevent damage to the turf on a golf course (Column 5, lines 33-51)
- In regard to claim 4, Keller et al discloses wherein the maintenance device further comprises an identification node that provides the maintenance control computer with information about the maintenance device. The maintenance control computer must know information about the maintenance device in order to provide the correct type of maintenance, whether it's cutting grass or spreading chemicals. (Column 19, lines 13-23)
- In regard to claim 5, Keller et al and McGrew both disclose wherein the maintenance device is selected from the group consisting of a granular chemical spreader, a liquid chemical sprayer, a mower and turf aerator. (McGrew: Column 2, lines 48-67; Keller et al: Column 4, lines 19-24)

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al (US 6,199,000) as applied to claim 1 above, and further in view of Winckler et al (US 3,527,476). McGrew fails to disclose the a hitch for the maintenance device that is located behind an operator cab and at a location above and between front and rear wheels on the tractor. Winckler et al disclose the above mentioned. (Figure 1) It would have been obvious to one having ordinary skill in the art at the time of the invention to use this variation of towing a trailer because Winckler et al discloses that it is known in the art that "heavy trailers should be coupled to the towing vehicle intermediate of its axles rather to rearwardly overhanging frame members thereof. Such coupling allows

the weight carried by the towing vehicle to be relatively evenly distributed over the axles thereof and thus, obviously, enables more positive control of the towing vehicle.”

(Column 1, lines 44-51) Having the weight evenly distributed over the axes would also help reduce the damage to the turf.

8. Claims 6, 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGrew, II (US 5,865,258) in view of Keller et al (US 6,199,000) and further in view of McCrory (US 2001/0006196). McGrew and Keller et al are discussed above and McCrory disclose a material spreading apparatus.

- In regard to claims 6 and 16, McGrew, as discussed before, discloses a system for precision treatment of turf grass areas comprising a utility tractor having a plurality of wheels distributed at a front end and a rear end of the tractor of a width sufficient to prevent damage to turf grass. (Column 5, lines 33-51) Keller et al also discloses a maintenance control system that is in communication with the location system wherein the computer application control system records position information in the target treatment area (Column 5, lines 28-40), correlates the position information with stored data that identifies the turf treatment needs at the location for the maintenance device (Column 5, lines 28-40) and sends control signals to the maintenance device for controlling operation of the maintenance device at the location. (Column 6, lines 21-57) McGrew and Keller et al both fail to disclose a variable rate spreader, however, McCrory discloses a material spreading apparatus that hitchable to a tractor and comprising a storage bin having a discharge opening and a movable transport

belt that can be moved by a variable speed motor, wherein the transport belt is disposed below the discharge opening for transporting turf treatment agents discharged from the bin for dispersion onto a turf grass area. (Page 3, paragraph 40) It would have been obvious to one having ordinary skill in the art at the time of the invention as mentioned above to modify the invention of McGrew with the apparatus of Keller et al in order to provide a system which is able to reliably provide maintenance services on a golf course. Keller et al discloses that the invention can be used for operations where highly accurate positioning determinations need to be made, such as where to place a hole on a golf course or the boundaries of the fairway and the green. The invention disclosed by McGrew is for maintaining a golf course and it would be obvious to implement the position location system in order for the operator to be able to see the boundaries of what areas need to be treated with certain chemicals or cut. Further, it would have been obvious to one having ordinary skill in the art at the time of the invention to attach a variable spreader as taught McCrory to the tractor in order to be able to spread chemicals based upon a desired area and at a desired speed. McCrory discusses how the variable spreader is better than a regular spreader that spreads based upon the speed of the wheels instead of a motor. (Page 3, paragraph 40).

- In regard to claim 7, McGrew discloses having a trailer unit hitched to the tractor at a location sufficient to distribute weight from the trailer among the wheels of the tractor. (Column 5, lines 33-51)



9. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCrory (US 2001/0006196) as applied to claim 7 above, and further in view of Winckler et al (US 3,527,476). McGrew discloses a tractor further comprising an operator cab and a rear bed (Fig 28), however, McGrew fails to disclose the spreader hitched to the tractor with a hitch coupling located in the bed and the hitch coupling located in the bed at a point above and between the front end wheels and the rear end wheels of the tractor. Winckler et al disclose the above mentioned. (Figure 1) It would have been obvious to one having ordinary skill in the art at the time of the invention to use this variation of towing a trailer because Winckler et al discloses that it is known in the art that "heavy trailers should be coupled to the towing vehicle intermediate of its axles rather to rearwardly overhanging frame members thereof. Such coupling allows the weight carried by the towing vehicle to be relatively evenly distributed over the axles thereof and thus, obviously, enables more positive control of the towing vehicle." (Column 1, lines 44-51) Having the weight evenly distributed over the axes would also help reduce the damage to the turf.

10. Claims 10-14 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCrory (US 2001/0006196) as applied to claims 7 and 16 above, and further in view of Yap et al (US 5,435,369).

- In regard to claims 10-14, 17 and 20-23 Yap et al discloses a truck tire with split overlay. McCrory, Keller et al and McGrew fail to disclose the utility tractor wheels having a width sufficiently wide to provide a sufficiently high "footprint", a width within the range from about 8-14 inches, a sidewall height within the range

from about 4-8 inches, and an aspect ratio within range from about 0.35 to 1, preferably 0.4 to 0.75. Yap et al discloses a tire with all of these characteristics (Column 4, lines 45-47; Column 3, lines 35-50; Column 6, lines 20-31). Yap et al does not specifically disclose the sidewall height, however, Yap et al discusses that the aspect ratio is determined from its section height to its section width, therefore having the width in the ranges of 8-14 inches and having the aspect ratio be less than 75% would provide the correct sidewall height. It would have been obvious to one having ordinary skill in the art at the time of the invention to use this tire on a tractor in order to provide a wheel which is able to prevent damage to the turf. Yap et al discusses the need for a better footprint for the tire for it wear evenly which would help with preventing damage to the turf. (Column 1, lines 20-48)

- In regard to claims 18 and 19, Keller et al discloses wherein the stored data comprises course boundaries, soil sample information, obstacle information, aerial photos, topographic maps, grass species data, moisture, shade, turf health, pest infestation, various types of historical treatment data pertinent to the management of a golf course, or other data relevant for the growing of grass and the various grass species found on a particular course. (Column 5, lines 17-41)

### ***Conclusion***

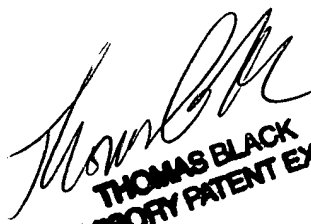
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie A. Weiskopf whose telephone number is (571)

272-6288. The examiner can normally be reached on Monday-Thursday between 7:00 AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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**THOMAS BLACK**  
**SUPERVISORY PATENT EXAMINER**